HL.2.1993-135
c.2

CANADIANA

MAR 19 1993

COST ANALYSIS OF SELECTED FRESH AND PROCESSING VEGETABLES AND POTATO PRODUCTION IN ALBERTA, 1991

Alberta
AGRICULTURE
Production Economics Branch

Agdex 821-65

Copies of this publication may be obtained from:

Print Media Branch
Alberta Agriculture
7000 - 113 Street
Edmonton, Alberta T6H 5T6
-Or-
Alberta Agriculture's district offices

1993 03 500

COST ANALYSIS OF SELECTED FRESH AND PROCESSING VEGETABLES AND POTATO PRODUCTION IN ALBERTA, 1991

by

G. Nabi Chaudhary

ALBERTA AGRICULTURE
ECONOMIC SERVICES DIVISION
PRODUCTION ECONOMICS BRANCH

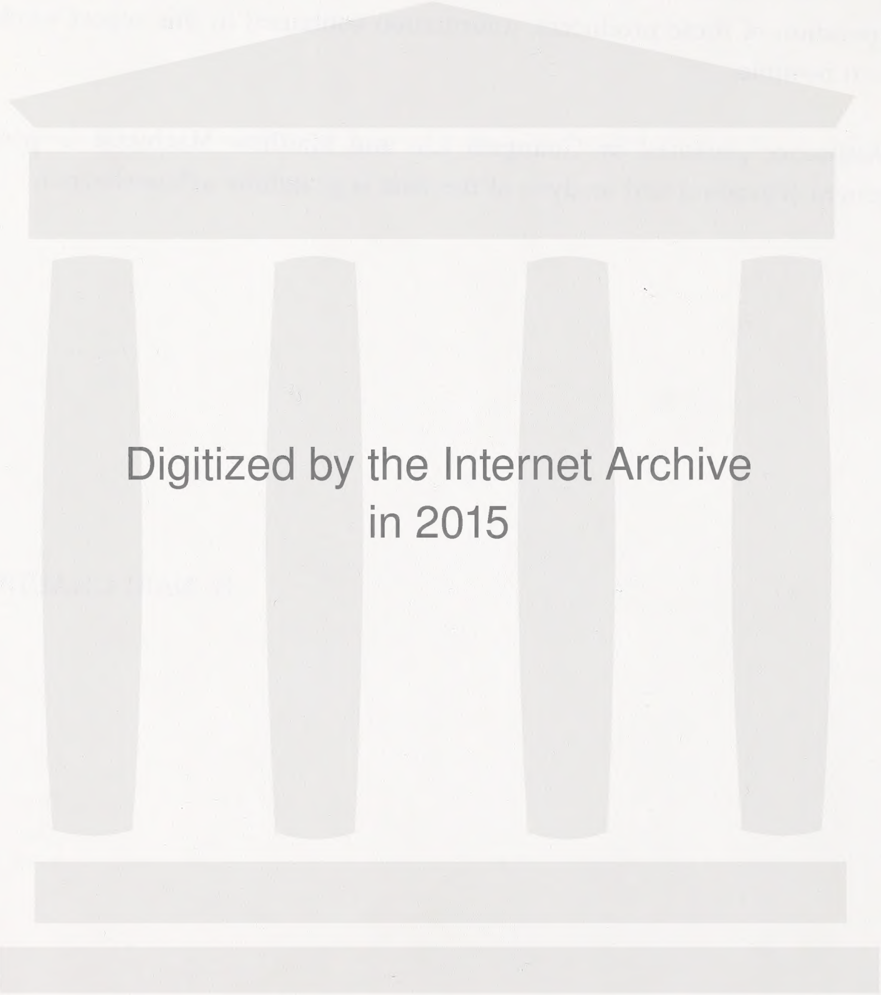
DECEMBER 1992

ACKNOWLEDGEMENTS

I wish to express my sincere thanks to the fresh and processing vegetable, and potato producers in Alberta, for their willingness to participate in this study. Without the cooperation of these producers, information contained in this report would not have been possible.

Assistance provided by Guangzhi Liu and Matthew Machielse in program development (Paradox) and analysis of the data is gratefully acknowledged.

G. NABI CHAUDHARY



Digitized by the Internet Archive
in 2015

https://archive.org/details/costanalysisofse00chau

TABLE OF CONTENTS

Section		Page
	Acknowledgements	i
I	Introduction	1
	Objectives of the Study	2
II	Computation of Costs and Returns	3
	Method of Analysis	5
III	Potato and Vegetable Production in Alberta	7
	Acreage and Production of Fresh Vegetables in Alberta	7
	Acreage and Production of Processing Vegetables in Alberta	9
	Acreage and Production of Potatoes in Alberta	9
IV	Production Costs and Returns	13

Table		Page
1	Acreage and Production of Major Fresh Vegetables in Alberta, 1975 – 1992	8
2	Acreage and Production of Processing Vegetables in Alberta, 1985 – 1992	10
3	Acreage and Production of Potatoes in Alberta, 1972 – 1992	11
4	Costs and Returns for Cabbage	15
5	Costs and Returns for Fresh Corn	16
6	Costs and Returns for Processing Beans	17
7	Costs and Returns for Processing Corn	18
8	Costs and Returns for Processing Peas	19
9	Costs and Returns for Processing Potatoes	20
10	Costs and Returns for Table Potatoes	21

SECTION I

INTRODUCTION

Potato and vegetable production in Alberta has fluctuated considerably over the last several years. Area under potato production was 23,000 acres in 1972 which decreased to 16,000 acres in 1978 and 1980. During the last two decades area under potatoes (processing, seed and table) has fluctuated between 16,000 acres in 1978 to 25,500 acres in 1990. Total area under major fresh and processing vegetables was 10,295 acres in 1975. A decade later, area under these crops decreased to 9,856 acres. However, six years later, in 1991, area under major fresh and processing vegetables increased to 11,617 acres, an increase of about 18 per cent.

Area under fresh vegetables in Alberta increased by over 281 per cent during the last 17 years, from 1,560 acres in 1975 to 5,940 acres in 1992. However, area under processing vegetables decreased by 34 per cent during the same period, from 8,735 acres in 1975 to 5,722 acres in 1991. Similarly, production of fresh and processing vegetables has fluctuated with acreage.

Overall production of fresh and processing vegetables has increased by about 22 per cent during the last fourteen years, from 40 952 tonnes in 1975 to 49 889 tonnes in 1991. However, the increase in production has not fulfilled the increased demand for local fresh produce. Therefore, imports of fresh produce has been increasing steadily.

Presently the Alberta vegetable industry supplies only about 20 to 25 per cent of the fresh and processing vegetables consumed in the province. There is, therefore, a great potential for expanding vegetable production in Alberta, providing the economic parameters are favourable for such expansion.

Production costs and returns data, are developed to assist producers and processors in establishing prices for the locally produced fresh and processing vegetables. Moreover, such information would assist potential vegetable growers to establish profitability of different vegetable crops. Production costs and returns information based on the current situation could also assist in identifying cost cutting areas in order to enhance profitability and management practices.

This report is based on 1991 data obtained from potato, fresh and processing vegetable producers through a survey questionnaire. The report provides information on production costs and returns for fresh and processing vegetables. Fresh vegetables included in the analysis are cabbage and corn. Processing vegetables included in this analysis are beans, corn and peas.

Objectives of the Study

The main objective of the survey was to ascertain the economic parameters and the cost of producing vegetables in Alberta. Specifically, the objectives were:

1. To determine production costs and returns for potatoes, fresh and processing vegetables.
2. To provide the fresh produce industry, extension personnel, interest groups and the general public with factual cost of production for potatoes, fresh and processing vegetables.

SECTION II

COMPUTATION OF COSTS AND RETURNS

The cost summaries presented in the following pages are based on enterprise analysis. Namely, the expenses and income associated with a given enterprise are allocated from the total farm activities. Producers generally grow more than one vegetable crop on relatively small acreages. Therefore, allocating the appropriate expenses for each crop on the farm is not easy, because expenses such as utilities, fuel, etc. are purchased on a total farm basis and require a proper allocation among the crops.

Cost accounting is far from being a uniform practice. There are many distinctly different procedures. In this report, following major cost categories are recognized:

Cash Costs – the expenses directly associated with the enterprise or crop. For instance fertilizer, seed, crop insurance, etc. are actual outlays during the year for specific crops. The allocation among the crops is not needed.

In addition to the above input costs, this category also includes actual outlays in the production year for the total farm, as the supplies and services are purchased for the whole farm and used within the farm as required. The allocation for each enterprise is determined by the amount or proportion of enterprise use of these services. For instance fuel, machinery costs, and/or repairs are allocated among the crops according to the use.

Labour Costs – two major groups in this category are hired paid labour and unpaid family labour costs. Hired paid labour cost is the actual wages paid for hired help. This could include family members. The operator's labour hours may vary from almost nil on some farms to the total input of labour on others. A statement of labour hours for the operator and unpaid family members was obtained for the particular enterprise and then an appropriate wage rate was applied. By this method, it is felt that the process of valuing the family labour is equitable. The operator labour rate in 1991 was established at $7.50 per hour.

Although the operator and unpaid family labour cost is not an actual cash outlay, it should represent a fair compensation for living expenses of the family. The reward for management is shown in profit.

Capital Costs – this cost category can also be named "resource ownership cost". The previous cost categories must be paid regardless of the nature of the ownership of the capital, whether it's rented or owned. The capital cost category is composed of four major cost items: rent, taxes and insurance, depreciation, and interest payments. The cost of rent is the actual outlay of cash rent or the crop share value. When the land is rented, there is no capital interest payment.

To establish the depreciation cost, the participating growers were asked to indicate the market value of their investment. The depreciation was then calculated by applying 5 per cent on buildings and 10 per cent on machinery. The value of depreciation is slightly overestimated by this method. Another procedure is to base depreciation on the original value of investment. Original value, however was not available since the study focused on market value.

The paid interest is determined by calculating the 1991 composite interest actually paid by the enterprise on all long–term borrowed funds. The interest on operating loans is included under cash costs.

Returns – the return to equity is the residual value when the sum of production costs is deducted from gross income. This annual value can then be expressed as a percentage of the owner invested equity and serves as an indication of the economic well being of the enterprise for a given year.

In order to satisfy needs of individual study participants, emphasis in this report is on the weighted average cost. The cost components were arranged in such a way as to avoid discrepancies between individual records. For example, if rent was included in the direct cost category as a cash cost, then the total direct cost would be higher for growers who rent land, and their capital cost would be small. This was corrected by including rent in capital costs.

Method Of Analysis

Many approaches may be used to establish the cost of production on the farm. The approach used for this analysis is to show the actual cost outlays taken from the farm records for the 1991 production year.

The data were collected from a random sample of potato and fresh and processing vegetable growers in the province for the 1991 crop year. The study participants were visited by surveyors to complete the questionnaires designed to obtain production costs and returns for the various vegetable crops and potatoes. A "Paradox" computer program was developed to analyze the data and develop group averages by crops.

SECTION III

POTATO AND VEGETABLE PRODUCTION IN ALBERTA

During the last two decades, area under potato production (processing, seed and table) in Alberta has fluctuated between 16,000 acres (lowest) in 1978 and 1980 to 25,500 acres (highest) in 1990. Similarly, overall tonnage of potato production has also fluctuated with acreage.

Production of fresh and processing vegetables in Alberta has varied considerably during the last several years. Combined area under fresh and processing vegetables was 10,295 acres in 1975 which increased to 11,617 acres in 1991. Fresh vegetable crops which showed significant increases in area were cabbage, carrots and fresh corn. Area under cucumbers, onions and rutabagas also showed a small increase as well. During the last seven years, area under processing vegetables (beans, beets, carrots, corn and peas) has fluctuated between 4,406 acres in 1987 to 6,118 acres in 1990.

Acreage and Production of Fresh Vegetables in Alberta

Table 1 provides details on the area and production of six major fresh vegetables produced in Alberta. In 1975, area under fresh vegetables was at 1,560 acres which continued to increase in the following years. In 1982 it increased to 2,410 acres, an increase of about 54 per cent over the area in 1975. In 1985, area under the six major fresh vegetables more than doubled to 5,137 acres over the area in 1982. In 1992, it increased to 5,940 acres, the highest area under fresh vegetables in Alberta. However, production of these fresh vegetables decreased by over 40 per cent in 1992 over the production in 1991, because of weather conditions. Total production of fresh vegetables has shown a very significant increase during the last sixteen years. It reached the highest production level in 1986 at over 36 400 tonnes, up from over 12 000 tonnes in 1975. Details on area and production of six major fresh vegetables, from 1975 to 1992, are presented in Table 1.

TABLE 1: ACREAGE AND PRODUCTION OF MAJOR FRESH VEGETABLES IN ALBERTA, 1975 – 1992

CROP	1975		1976		1977		1978		1979		1980		1981	
	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes
Cabbage	210	2 756	260	2 273	260	2 585	300	2 779	350	3 232	380	4 309	450	4 491
Carrots	390	4 603	310	4 335	370	5 096	370	4 843	270	4 491	420	5 806	500	4 899
Corn, Fresh	650	2 040	650	1 445	510	1 575	600	1 590	650	1 865	760	1 595	760	2 025
Cucumbers	100	351	130	337	130	189	130	255	140	261	150	286	150	295
Onions	50	272	170	1 696	120	1 676	120	1 235	50	463	200	1 687	220	2 232
Rutabagas	160	2 049	150	1 876	150	2 279	150	2 324	160	2 145	160	2 395	160	2 223
TOTAL	1,560	12 071	1,670	11 962	1,640	13 400	1,670	13 026	1,720	12 457	2,070	16 078	2,240	16 165

CROP	1982		1983		1984		1985		1986		1987		1988	
	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes
Cabbage	450	4 680	450	2 630	600	2 810	921	4 270	779	7 917	1,025	6 996	381	7 038
Carrots	700	5 535	750	8 165	650	3 265	1,070	6 805	758	10 070	1,096	7 351	980	5 863
Corn, Fresh	700	1 535	690	1 930	690	2 355	1,020	2 770	3,004	14 204	2,769	12 764	2,573	13 506
Cucumbers	170	360	200	490	200	610	206	430	275	929	248	384	215	742
Onions	220	1 525	210	1 765	210	1 720	246	1 625	187	1 612	275	2 441	238	1 461
Rutabagas	170	1 695	230	3 485	150	1 495	298	1 070	134	1 686	179	1 122	142	684
TOTAL	2,410	15 330	2,530	18 465	2,500	12 255	3,760	16 970	5,137	36 418	5,592	31 058	5,029	29 294

CROP	1989		1990		1991		1992	
	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes
Cabbage	538	5 557	705	6 569	605	4 506	555	3 940
Carrots	985	5 937	747	7 084	1,013	5 877	975	5 660
Corn, Fresh	3,178	13 067	3,509	14 857	3,615	15 548	3,620	5 467
Cucumbers	160	535	147	381	244	815	265	544
Onions	220	2 400	264	2 570	225	2 703	355	1 588
Rutabagas	131	1 188	153	1 079	193	991	170	512
TOTAL	5,212	28 684	5 525	32 540	5,895	30 440	5,940	17 711

Acreage and Production of Processing Vegetables in Alberta

Table 2 provides information on processing vegetables which shows that area and production of these crops have also fluctuated considerably over the last several years. Area under processing vegetables was 8,735 acres in 1975. In 1985, it increased to 6,096 acres and continued to fluctuate between 4,406 acres in 1987 and 6,118 acres in 1990. In 1991, area under processing vegetables was 5,722 acres. Similarly, production of processing vegetables during the last seven years has fluctuated between 15 530 tonnes in 1987 and 24 571 tonnes in 1985. In 1991, production of these vegetables was 19 449 tonnes. Details on area and production of processing vegetables in Alberta for the years 1985 to 1991 are given in Table 2.

Acreage and Production of Potatoes in Alberta

Table 3 presents acreage under potato production in Alberta from 1972 to 1992. Average yield per acre and total production in tonnes are also provided in this table. As mentioned earlier, acreage under potatoes (processing, seed and table potatoes) has ranged from 16,000 acres in 1978 to 25,500 acres in 1990. In 1992, acreage under potatoes decreased to 22,278, a decrease of about 13 per cent over in 1990. During the last two decades, average yield per acre has ranged from 7.89 tonnes in 1974 to 11.74 tonnes in 1990. Overall production of potatoes has ranged from 149 432 tonnes in 1978 to 299 400 tonnes in 1990 during the last twenty–one years. Details on area under potatoes, yield per acre and total production are given in Table 3.

TABLE 2: ACREAGE AND PRODUCTION OF PROCESSING VEGETABLES IN ALBERTA, 1985 – 1992

CROP	**1985**		**1986**		**1987**		**1988**	
	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes
Beans	570	1 435	155	574	202	512	293	373
Beets	25	227	36	482	18	104	12	112
Carrots	44	864	162	4 342	52	1 064	55	1 106
Corn	2,386	17 727	1,966	13 369	1,723	10 918	1,870	12 251
Peas	3,071	4 318	2,826	5 087	2,411	2 932	2,254	2 676
TOTAL	6,096	24 571	5,145	23 854	4,406	15 530	4,484	16 518

CROP	**1989**		**1990**		**1991**		**1992**	
	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes	Acres	Tonnes
Beans	570	1 435	345	712	319	872	327	647
Beets	26	157	20	240	0	0	0	0
Carrots	44	1 174	42	1 146	32	790	35	980
Corn	2,388	11 363	2,485	13 847	2,331	13 039	2,232	3 889
Peas	3,079	4 322	3,226	4 902	3,040	4 748	3,041	3 520
TOTAL	6,107	18 452	6,118	20 847	5,722	19 449	5,635	9 036

TABLE 3: ACREAGE AND PRODUCTION OF POTATOES IN ALBERTA, 1972 – 1992

YEAR	ACRES	YIELD TONNES/ACRE	TOTAL PRODUCTION TONNES
1972	23,000	8.09	185 972
1973	23,000	8.89	204 350
1974	23,000	7.89	181 473
1975	18,000	8.57	154 221
1976	16,200	10.08	163 293
1977	17,000	9.87	167 829
1978	16,000	9.34	149 432
1979	17,000	10.21	173 449
1980	16,000	11.61	185 791
1981	16,600	10.39	172 429
1982	18,000	10.66	191 900
1983	18,500	10.79	199 600
1984	20,500	10.34	212 000
1985	20,000	10.43	208 600
1986	22,500	11.71	263 520
1987	23,500	12.16	285 843
1988	23,600	11.80	278 500
1989	25,200	11.34	285 800
1990	25,500	11.74	299 400
1991	24,544	9.76	239 500
1992	22,278	10.73	239 091

SOURCE: Statistics Branch, Alberta Agriculture, Edmonton, Alberta.

SECTION IV

PRODUCTION COSTS AND RETURNS

This section provides detailed information on average production costs and returns for selected fresh and processing vegetables and potatoes for the 1991 crop year. The data obtained from individual participants were used to develop group averages for various crops.

Detailed information on production costs and returns is presented for the following crops:

- i) Fresh vegetables
  - cabbage
  - corn

- ii) Processing vegetables
  - beans
  - corn
  - peas

- iii) Potatoes
  - processing
  - table

Average production costs and returns for fresh and processing vegetables are presented in Tables 4 to 8. Production costs and returns for processing and table potatoes are given in Tables 9 and 10.

For the convenience of study participants and users of this information, results are presented in various tables as follows:

PART A: This part provides information on income or receipts for different crops. Area per farm is simply the average number of acres of a crop grown by the study participants in that particular group. Yield per acre is the weighted average of saleable production (per acre) for the acres under study. Gross return per acre consists of an estimated crop value for the particular crop under study and miscellaneous receipts such as crop insurance, and/or any other payments, etc.

PART B: This part lists costs which include all of the out–of–pocket costs and unpaid operator labour. Because of the producers' interest in knowing their out–of–pocket costs for each basic unit of production, the costs were broken into as much detail as possible. The most significant inputs which make up major portions of such costs are seed, fertilizer, chemicals, power machinery fuel and repairs, utilities and hired labour. Details on these input costs and other components of such costs are given in tables for each enterprise studied during the 1991 crop year.

PART C: Total capital costs represent cash rent/crop share, taxes and insurance, equipment and building depreciation, and interest paid on capital.

PART D: This part shows total cash costs consisting of variable costs (less unpaid and operator labour). Cash costs also include land rent, land taxes, insurance, water rates and interest paid on capital.

PART E: This part is a summation of total variable costs (Part B) and total capital costs (Part C).

PART F: This part provides information on management factors, i.e., contribution margin, return to unpaid labour, returns to investment and management.

Table 4 COSTS AND RETURNS FOR CABBAGE

Acres Cropped: 14

			Per	
		Total	Acre	Tonne
		-- $ --	---- $$$	----
Crop Sales - Imputed Value of Production		68294	4878.18	299.70
Crop Insurance Receipts		0	0.00	
Miscellaneous Receipts		0	0.00	
Government Program Payments		1332	95.11	
(A) GROSS RETURN		**69626**	**4973.28**	**305.54**
1. Seed/Transplants		3290	235.00	
2. Fertilizer		1037	74.11	
3. Chemicals		1295	92.50	
4. Hail/Crop Insurance		0	0.00	
5. Fuel		5725	408.93	
6. Repairs - Machinery		1025	73.21	
7. Repairs - Buildings		141	10.07	
8. Utilities		1570	112.14	
9. Custom Work & Specialized Labour		2951	210.75	
10. Marketing & Membership Fees		275	19.64	
11. Miscellaneous Expenses		3830	273.57	
12. Operating Interest paid		126	9.00	
13. Paid Labour	2500.0 Hrs	19970	1426.43	
14. Unpaid & Management Labour	1225.0 Hrs	9188	656.25	
(B) VARIABLE COST		**50422**	**3601.61**	**221.27**
1. Cash Rent/Crop Share		1260	90.00	
2. Taxes, Insurance		1474	105.25	
3. Equipment & Building Depreciation		18909	1350.61	
4. Paid Capital Interest		1025	73.21	
(C) TOTAL CAPITAL COST		**22667**	**1619.07**	**99.47**
(D) TOTAL CASH COSTS		**44993**	**3213.82**	**197.45**
(E) TOTAL COSTS	**(B+C)**	**73089**	**5220.68**	**320.74**
(F) MANAGEMENT FACTORS:				
GROSS MARGIN	**(A-D)**	**19204**	**1371.68**	**84.27**
RETURN TO UNPAID LABOUR	**(A-E+B.14)**	**5724**	**408.86**	**25.12**
RETURN TO INVESTMENT	**(A-E+C.4) -1.18%**	**-2438**	**-174.18**	**-10.70**
RETURN TO MANAGEMENT	**(A-E)**	**-3463**	**-247.39**	**-15.20**
INVESTMENT				
Land		3850	275.00	
Buildings (Average Age 15.8 Yrs)		39250	2803.57	
Machinery(Power 4.45 Yrs,Non-Power 0 Yrs)		163400	11671.43	
TOTAL		**206500**	**14750.00**	**906.19**
Yield Per Acres (Tonnes)			**16.28**	
Average Price per Tonne			**299.70**	

Table 5 COSTS AND RETURNS FOR FRESH CORN

Acres Cropped: 95

				Per	
			Total	Acre	Tonne
			-- $ --	---- $$$	----
Crop Sales - Imputed Value of Production			95521	1005.49	214.41
Crop Insurance Receipts			0	0.00	
Miscellaneous Receipts			0	0.00	
Government Program Payments			175	1.84	
(A) GROSS RETURN			**95696**	**1007.33**	**214.81**
1. Seed/Transplants			4610	48.52	
2. Fertilizer			4000	42.11	
3. Chemicals			2560	26.95	
4. Hail/Crop Insurance			0	0.00	
5. Fuel			3225	33.95	
6. Repairs - Machinery			1713	18.03	
7. Repairs - Buildings			150	1.58	
8. Utilities			1375	14.47	
9. Custom Work & Specialized Labour			533	5.61	
10. Marketing & Membership Fees			243	2.56	
11. Miscellaneous Expenses			9051	95.27	
12. Operating Interest paid			2300	24.21	
13. Paid Labour		526.3 Hrs	4377	46.07	
14. Unpaid & Management Labour		421.3 Hrs	3159	33.26	
(B) VARIABLE COST			**37295**	**392.58**	**83.72**
1. Cash Rent/Crop Share			9000	94.74	
2. Taxes, Insurance			1431	15.07	
3. Equipment & Building Depreciation			23537	247.76	
4. Paid Capital Interest			5625	59.21	
(C) TOTAL CAPITAL COST			**39593**	**416.77**	**88.87**
(D) TOTAL CASH COSTS			**50192**	**528.34**	**112.66**
(E) TOTAL COSTS	**(B+C)**		**76889**	**809.36**	**172.59**
(F) MANAGEMENT FACTORS:					
GROSS MARGIN	**(A-D)**		**58401**	**614.75**	**131.09**
RETURN TO UNPAID LABOUR	**(A-E+B.14)**		**21967**	**231.23**	**49.31**
RETURN TO INVESTMENT	**(A-E+C.4)**	**9.18%**	**24432**	**257.18**	**54.84**
RETURN TO MANAGEMENT	**(A-E)**		**18807**	**197.97**	**42.22**
INVESTMENT					
Land			20000	210.53	
Buildings (Average Age 14.65 Yrs)			36118	380.18	
Machinery(Power 4.35 Yrs,Non-Power 3.5 Yrs)			210000	2210.53	
TOTAL			**266118**	**2801.24**	**597.35**
Yield Per Acres (Tonnes)				**4.69**	
Average Price per Tonne				**214.41**	

Table 6 COSTS AND RETURNS FOR PROCESSING BEANS

Acres Cropped: 30

			Per	
		Total	Acre	Tonne
		-- $ --	---- $$$	----
Crop Sales - Imputed Value of Production		20363	678.76	256.55
Crop Insurance Receipts		2867	95.56	
Miscellaneous Receipts		62	2.06	
Government Program Payments		441	14.71	
(A) GROSS RETURN		**23732**	**791.08**	**299.01**
1. Seed/Transplants		3272	109.05	
2. Fertilizer		1039	34.62	
3. Chemicals		616	20.54	
4. Hail/Crop Insurance		564	18.81	
5. Fuel		874	29.13	
6. Repairs - Machinery		238	7.94	
7. Repairs - Buildings		247	8.23	
8. Utilities		269	8.98	
9. Custom Work & Specialized Labour		4880	162.68	
10. Marketing & Membership Fees		307	10.23	
11. Miscellaneous Expenses		705	23.50	
12. Operating Interest paid		11	.36	
13. Paid Labour	94.5 Hrs	830	27.67	
14. Unpaid & Management Labour	189.6 Hrs	1422	47.41	
(B) VARIABLE COST		**15274**	**509.14**	**192.44**
1. Cash Rent/Crop Share		1138	37.95	
2. Taxes, Insurance		264	8.80	
3. Equipment & Building Depreciation		3053	101.76	
4. Paid Capital Interest		2012	67.06	
(C) TOTAL CAPITAL COST		**6467**	**215.57**	**81.48**
(D) TOTAL CASH COSTS		**17266**	**575.55**	**217.54**
(E) TOTAL COSTS	**(B+C)**	**21741**	**724.72**	**273.93**
(F) MANAGEMENT FACTORS:				
GROSS MARGIN	**(A-D)**	**8458**	**281.94**	**106.57**
RETURN TO UNPAID LABOUR	**(A-E+B.14)**	**3413**	**113.77**	**43.00**
RETURN TO INVESTMENT	**(A-E+C.4) 8.43%**	**4003**	**133.43**	**50.43**
RETURN TO MANAGEMENT	**(A-E)**	**1991**	**66.36**	**25.08**
INVESTMENT				
Land		15720	524.00	
Buildings (Average Age 20.54 Yrs)		5175	172.48	
Machinery(Power 12.86 Yrs,Non-Power 4.58 Yrs)		26595	886.51	
TOTAL		**47490**	**1582.99**	**598.33**
Yield Per Acres (Tonnes)			**2.65**	
Average Price per Tonne			**256.55**	

Table 7 COSTS AND RETURNS FOR PROCESSING CORN

Acres Cropped: 85.6

			Total	Per Acre	Per Tonne
			-- $ --	---- $$$	----
Crop Sales - Imputed Value of Production			37302	435.77	91.44
Crop Insurance Receipts			80	.93	
Miscellaneous Receipts			815	9.52	
Government Program Payments			366	4.28	
(A) GROSS RETURN			**38563**	**450.50**	**94.53**
1. Seed/Transplants			2823	32.98	
2. Fertilizer			3291	38.44	
3. Chemicals			2180	25.46	
4. Hail/Crop Insurance			851	9.94	
5. Fuel			3104	36.26	
6. Repairs - Machinery			1193	13.93	
7. Repairs - Buildings			294	3.43	
8. Utilities			1136	13.27	
9. Custom Work & Specialized Labour			4864	56.82	
10. Marketing & Membership Fees			377	4.41	
11. Miscellaneous Expenses			2025	23.66	
12. Operating Interest paid			1483	17.32	
13. Paid Labour		498.1 Hrs	4202	49.09	
14. Unpaid & Management Labour		356.4 Hrs	2673	31.22	
(B) VARIABLE COST			**30494**	**356.24**	**74.75**
1. Cash Rent/Crop Share			608	7.11	
2. Taxes, Insurance			1456	17.01	
3. Equipment & Building Depreciation			7766	90.72	
4. Paid Capital Interest			5411	63.21	
(C) TOTAL CAPITAL COST			**15241**	**178.05**	**37.36**
(D) TOTAL CASH COSTS			**35297**	**412.34**	**86.52**
(E) TOTAL COSTS	**(B+C)**		**45735**	**534.29**	**112.11**
(F) MANAGEMENT FACTORS:					
GROSS MARGIN	**(A-D)**		**8068**	**94.26**	**19.78**
RETURN TO UNPAID LABOUR	**(A-E+B.14)**		**-4500**	**-52.57**	**-11.03**
RETURN TO INVESTMENT	**(A-E+C.4)**	**-1.06%**	**-1761**	**-20.58**	**-4.32**
RETURN TO MANAGEMENT	**(A-E)**		**-7173**	**-83.79**	**-17.58**
INVESTMENT					
Land			81415	951.11	
Buildings (Average Age 21.09 Yrs)			21614	252.50	
Machinery(Power 9.94 Yrs,Non-Power 6.01 Yrs)			62781	733.42	
TOTAL			**165810**	**1937.04**	**406.45**
Yield Per Acres (Tonnes)				**4.77**	
Average Price per Tonne				**91.44**	

Table 8 COSTS AND RETURNS FOR PROCESSING PEAS

Acres Cropped: 56

			Per	
		Total	Acre	Tonne
		-- $ --	---- $$$	----
Crop Sales - Imputed Value of Production		35225	629.02	386.11
Crop Insurance Receipts		0	0.00	
Miscellaneous Receipts		94	1.67	
Government Program Payments		278	4.96	
(A) GROSS RETURN		**35596**	**635.65**	**390.18**
1. Seed/Transplants		6524	116.50	
2. Fertilizer		1467	26.19	
3. Chemicals		1526	27.25	
4. Hail/Crop Insurance		839	14.99	
5. Fuel		1976	35.29	
6. Repairs - Machinery		1009	18.01	
7. Repairs - Buildings		95	1.70	
8. Utilities		411	7.33	
9. Custom Work & Specialized Labour		6595	117.77	
10. Marketing & Membership Fees		357	6.37	
11. Miscellaneous Expenses		664	11.85	
12. Operating Interest paid		978	17.46	
13. Paid Labour	137.0 Hrs	989	17.66	
14. Unpaid & Management Labour	135.4 Hrs	1015	18.13	
(B) VARIABLE COST		**24444**	**436.49**	**267.93**
1. Cash Rent/Crop Share		3859	68.91	
2. Taxes, Insurance		199	3.56	
3. Equipment & Building Depreciation		4064	72.58	
4. Paid Capital Interest		4261	76.10	
(C) TOTAL CAPITAL COST		**12384**	**221.15**	**135.75**
(D) TOTAL CASH COSTS		**31749**	**566.94**	**348.00**
(E) TOTAL COSTS	**(B+C)**	**36828**	**657.65**	**403.68**
(F) MANAGEMENT FACTORS:				
GROSS MARGIN	**(A-D)**	**11153**	**199.15**	**122.25**
RETURN TO UNPAID LABOUR	**(A-E+B.14)**	**-217**	**-3.87**	**-2.37**
RETURN TO INVESTMENT	**(A-E+C.4) 4.89%**	**3030**	**54.10**	**33.21**
RETURN TO MANAGEMENT	**(A-E)**	**-1232**	**-22.00**	**-13.50**
INVESTMENT				
Land		21786	389.03	
Buildings (Average Age 24.68571428571 Yrs)		4973	88.80	
Machinery(Power 12.86 Yrs,Non-Power 4.53 Yrs)		35202	628.61	
TOTAL		**61961**	**1106.44**	**679.16**
Yield Per Acres (Tonnes)			**1.63**	
Average Price per Tonne			**386.11**	

Table 9 COST AND RETURNS FOR PROCESSING POTATOES

Acres Cropped: 52.0

		Total	Acre	Tonne
		-- $ --	---- $$$	-----
Crop Sales - Imputed Value of Production		76418	1469.57	115.00
Crop Insurance Receipts		0	0.00	
Rebates, Patronage and Custom Work		560	10.76	
Government Program Payments		288	5.53	
(A) GROSS RETURN		**77265**	**1485.86**	**116.28**
1. Seed/Transplants		11400	219.23	
2. Fertilizer		3400	79.19	
3. Chemical		4118	65.39	
4. Hail/Crop Insurance		1200	23.08	
5. Fuel		4210	80.97	
6. Repairs - Machinery		5293	101.78	
7. Repairs - Buildings		658	12.65	
8. Utilities		507	9.76	
9. Custom Work & Specialized Labor		3394	65.27	
10. Marketing & Membership Fees		0	0.00	
11. Miscellaneous Expenses		1090	20.97	
12. Operating Interest paid		0	0.00	
13. Paid Labour	1181.2 Hrs	9915	190.68	
14. Unpaid & Operator Labour	560.0 Hrs	5354	102.95	
(B) VARIABLE COSTS		**50540**	**971.92**	**76.06**
1. Land Rent/Crop Share		0	0.00	
2. Taxes, Insurance		2007	38.60	
3. Equipment & Building Depreciation		7619	146.52	
4. Paid Capital Interest		8447	162.45	
(C) TOTAL CAPITAL COSTS		**18074**	**347.57**	**27.20**
(D) TOTAL CASH COSTS		**55640**	**1070.01**	**90.60**
(E) TOTAL COSTS	**(B+C)**	**68613**	**1319.49**	**103.26**
(F) MANAGEMENT FACTORS:				
GROSS MARGIN	**(A-D)**	**21624**	**415.85**	**32.54**
RETURN TO UNPAID LABOR	**(A-E+B.14)**	**14005**	**269.33**	**21.08**
RETURN TO INVESTMENT	**(A-E+C.4) 11.7%**	**17099**	**328.83**	**25.73**
RETURN TO MANAGEMENT	**(A-E)**	**8651**	**166.37**	**13.02**
INVESTMENT				
Land		41600	800.00	
Buildings (Average Age 12.0Yrs)		45639	877.66	
Machinery (Power 6.7Yrs, Non-Power 7.4Yrs)		58312	1121.39	
TOTAL		**145551**	**2799.05**	**219.04**
Yield Per Acre (Tonnes)			12.78	
Price per Tonne			115.00	

Table 10 COST AND RETURNS FOR TABLE POTATOES

Acres Cropped: 83.8

		Total	Acre	Tonne
		-- $ --	---- $$$	-----
Crop Sales - Imputed Value of Production		55457	662.18	80.37
Crop Insurance Receipts		0	0.00	
Rebates, Patronage and Custom Work		0	0.00	
Government Program Payments		404	4.83	
(A) GROSS RETURN		**55862**	**667.00**	**80.96**
1. Seed/Transplants		25125	300.00	
2. Fertilizer		2513	100.00	
3. Chemical		8375	30.00	
4. Hail/Crop Insurance		0	0.00	
5. Fuel		3723	44.45	
6. Repairs - Machinery		857	10.23	
7. Repairs - Buildings		105	1.25	
8. Utilities		524	6.26	
9. Custom Work & Specialized Labor		113	1.34	
10. Marketing & Membership Fees		0	0.00	
11. Miscellaneous Expenses		1310	15.64	
12. Operating Interest paid		0	0.00	
13. Paid Labour	618.6 Hrs	12000	143.28	
14. Unpaid & Operator Labour	216.2 Hrs	2067	24.68	
(B) VARIABLE COSTS		**56710**	**677.14**	**82.19**
1. Land Rent/Crop Share		2650	31.64	
2. Taxes, Insurance		694	8.28	
3. Equipment & Building Depreciation		9523	113.70	
4. Paid Capital Interest		3022	36.08	
(C) TOTAL CAPITAL COSTS		**15888**	**189.71**	**23.03**
(D) TOTAL CASH COSTS		**61009**	**728.46**	**94.56**
(E) TOTAL COSTS	**(B+C)**	**72598**	**866.84**	**105.21**
(F) MANAGEMENT FACTORS:				
GROSS MARGIN	**(A-D)**	**-5147**	**-61.46**	**-7.46**
RETURN TO UNPAID LABOR	**(A-E+B.14)**	**-14670**	**-175.16**	**-21.26**
RETURN TO INVESTMENT	**(A-E+C.4) -10.7%**	**-13715**	**-163.76**	**-19.88**
RETURN TO MANAGEMENT	**(A-E)**	**-16737**	**-199.84**	**-24.26**
INVESTMENT				
Land		12250	146.27	
Buildings (Average Age 18.8Yrs)		42360	505.79	
Machinery (Power 4.1Yrs, Non-Power 3.6Yrs)		73476	877.33	
TOTAL		**128086**	**1529.38**	**185.63**
Yield Per Acre (Tonnes)			8.24	
Price per Tonne			80.37	

N.L.C./B.N.C.
3 3286 50158 0613